CLAIMS

1. A device for vibration damping and/or controlling the flexion of an object (2, 10) in machining,
characterised in that the device comprises at least one force exchange device (7) for exchanging a force having a force component directed at right angle to the surface of the object (2, 10) and/or for exchanging, directly or via a mechanical lever (14), a moment between the object (2, 10) and the device.

2. A device according to claim 1,
characterised in that the device comprises a moment transmission device for transmitting moment between the at least one force exchange device (7) and the object (2, 10).

3. A device according to claim 2,
characterised in that the moment transmission device comprises a force transmission device (3) surrounding the object (2, 10).

4. A device according to claim 3,
characterised in that the force exchange device (7) is disposed between a clamp (5) for the object (2) and the force transmission device (3), and is fixed to or recessed in the clamp (5).

5. A device according to claims 3 or 4,
characterised in that the moment transmission device comprises a locator device (4) for the force exchange device (7), said locator device (4) surrounding the object (2, 10), and that the force exchange device (7) is disposed between the force transmission device (3) and the locator device (4).

6. A device according to any one of claims 2-5,
characterised in that an elastic material (11) is disposed between the force transmission device (3) and the locator device (4).

7. A device according to claim 6,
characterised in that the elastic material (11) is disposed between said at least one force transmission device (7) and the object (2, 10) or between said at least one force exchange device (7) and locator device (4).

8. A device according to claim 6 or 7,
characterised in that the elastic material (11) is made from rubber.

9. A device according to claim 3,
characterised in that the force exchange device (7) is configured to provide a force having a force component at right angles to the force transmission device (3) while also parallel to the surface of the object.

10. A device according to claim 1,
characterised by a locator device (4) for said at least one force transmission device (7), for fixing and locating said force exchange device (7) relative to the object (2, 10).

11. A device according to claim 10,
characterised by a force transmission device (3) surrounding the object (2, 10) and positioned between said force exchange device (7) and the object (2, 10).

12. A device according to claim 11,
characterised in that the force transmission device (3) and said force exchange device (7) are positioned in the locator device (4).

13. A device according to claim 1,
characterised in that the device comprises a moment transmission device for transmitting a moment between the at least one force exchange device (7) and the object (2), said moment transmission device being a connector part for the object (2) for fixing the object (2) to a clamp (5) for the object.

14. A device according to claim 13,
characterised in that said force exchange device (7) is positioned in the clamp (5) for the object (2).

15. A device according to any one of claims 1-14,
characterised in that the device is movably disposed with respect to the object (2, 10).

16. A device according to any one of claims 1-15,
characterised in that said at least one force exchange device is at least one actuator (7).

17. A device according to claim 16,
characterised in that it comprises a control unit (8) for regulating input to the at least one actuator (7).

18. A device according to claim 17,
characterised by a sensor (6) to be disposed on or in the object (2, 10) for detecting vibrations in and/or the flexion of the object (2, 10), said control unit (8) receiving signals from the sensor (6) for regulating the input based on said signals.

19. A device according to claim 18,
characterised in that the sensor is an accelerometer.

20. A device according to any one of claims 16-18,
characterised in that the actuator is a shaker, a pneumatic and hydraulic actuator, a piezoelectric force actuator or any other force, pressure or torsion actuator.

21. A device according to any one of claims 16-20,
characterised in that the actuators are adapted to be passively controlled, said actuators being pneumatic dampers or shunted actuators, for example, and/or actively using a damping algorithm, for example.

22. A device according to any of the preceding claims,
characterised in that it is modular and permits use of different dimensions and geometrical configurations of the object (2, 10).

23. A device according to any one of the preceding claims,
characterised in that it is adapted to an object which is a tool or a tool holder (2).

24. A device according to any one of claims 1-23,
characterised in that it is adapted to an object which is a workpiece (10).

25. A device according to claim 1,
characterised in that said at least one force exchange device is at least one force applying device (7) for applying said force and/or for applying said moment to the object (2, 10).

26. A device according to claim 1,
characterised in that said at least one force exchange device is at least one damping device (7) for absorbing vibrations from the object (2, 10), said damping device (7) being adapted to absorb said force component and/or absorb said moment from the object (2, 10).